435.36
04/08/2004
Rev. 05

NEW SITE IDENTIFICATION (NSI)

Part A – NEW SITE IDENTIFICATION INFORMATION
(To be completed by the Task Lead for New Site)

1.	**Site Title:** **WM-184 CPP Tank Farm Containment Vault Potential Release** (Use known common names, location descriptors and or processes near or associated with the suspected inactive waste site.)	**Site Code:** CPP-112 **NSI Evaluation Initiation Date:** December 15, 2003
2.	**Task Lead For New Site:** Wendell Jolley	Phone: 526-5990
3.	**NSI Coordinator: Nielson Burch**	Phone: 526-5676
4.	**Initiator or Initial Observer:** Keith Quigley	Phone: 526-0712

5. **Location of the Suspected New Site:** (A location map and/or diagram identifying the site against controlled survey points or global positioning system descriptors may be included.)

Suspected inactive waste site CPP-112 is located in the Tank Farm Facility at the Idaho Nuclear Technology and Engineering Center (INTEC), formerly known as the Idaho Chemical Processing Plant (CPP), in the Idaho National Engineering and Environmental Laboratory (INEEL). (See Figure 1.) Site CPP-112 involves Tank WM-184 and the associated concrete vault, CPP-784, located in the south central portion of the INTEC Tank Farm. (See Figure 2.)

6. **Describe the observed conditions that indicate a suspect new site:**

On November 18, 2003, 2000 gallons of deionized water were used to rinse down the interior sides of the concrete vault containing Stainless Tank WM-184 located in the INTEC Tank Farm of the INEEL. This DI water/rinsate was then pumped into Tank WM-184. The quantity of water was measured as it was being used and was run through a flow meter when transferred into the tank. There was a discrepancy between these two measurements of about 1,000 gallons. The flow measurement devices were recalibrated to see if they might have been the cause of the discrepancy between the two water measurements. This procedure was not able to conclusively prove that water was or was not missing due to the fact that the water flow meter was designed for managing much larger volumes of water. Therefore, on December 7, 2003, samples of the rinsate left in the vault were collected for analysis. On December 15, 2003 the incident was reported to the Department of Environmental Quality as a possible release to the environment.

Part B – SUSPECTED NEW SITE INVESTIGATION AND RECOMMENDATION
(To be completed by the Task Lead for New Site, except Block 3 which is to be completed by the Responsible Manager)

NEW SITE IDENTIFICATION (NSI)

1. **Document all existing information including historical, process, screening data, analytical data, radiological surveys etc.** (Attach supporting documentation)

Site CPP-112 consists of a release associated with decontamination of the 300,000 gallon Stainless Steel Tank WM-184 tank system, including the vault. This release to the tank vault occurred during performance of the Hazardous Waste Management Act/Resource Conservation and Recovery (HWMA/RCRA) closure activities.

This tank is contained in Vault CPP-784 located in the Tank Farm Facility of INTEC on the INEEL. The concrete floor of Vault CPP-784 was poured on bedrock approximately 45 feet underground. It has a 4-inch slope beginning at the floor center and tapering downward to the curb. Sump areas 1x1x1 ft. are located on the north and south sides of the vault floor. A 6x6 inch curb surrounds an enclosed octagonal area 51 ft. wide. The vault walls are composed of concrete pillars and panels and the roof is constructed of similar materials. This tank and vault were completed in 1955 to store liquid wastes generated by spent nuclear fuel reprocessing operations. Tank WM-184 is undergoing HWMA/RCRA closure in accordance with an Idaho Department of Environmental Quality (DEQ)-approved HWMA/RCRA Closure Plan.

On November 18, 2003, approximately 2000 gallons of deionized (DI) water was used to rinse down the inside walls of Vault CPP-784. This water was then pumped into Tank WM-184. Flow gauges were used to calculate both the amount of water used and the amount of water entering the tank. A discrepancy of about 1000 gallons resulted. The measuring devices were recalibrated to determine a possible cause of the discrepancy. Because these devices were designed for much larger water volumes, it was not clear if any water had been lost because the gauges were not capable of accurately determining flow volumes at levels of 2,000 gallons or less. On December 7, 2003, duplicate samples of the DI water rinsate (SR-22, SR-23) were taken from the vault sumps as a precaution in case water was indeed missing and, on December 15, 2003, the DEQ was notified that there might have been a possible release involved with Tank WM-184 at the INTEC Tank Farm Facility.

Results of the rinsate water appear in tables at the end of this report. Table 1 includes detected anions in mg/L and pH. Table 2 includes detected radionuclides in pCi/L. Table 3 includes detected volatile organic compounds in µg/L. Table 4 included detected semivolatile organic compounds in µg/L. Table 5 includes detected metals in µg/L. Each table includes the action level limit as published in the Idaho Hazardous Waste Management Act/Resource Conservation and Recovery Act Closure Plan for INTEC Tanks WM-184, WM-185 and WM-186 (DOE/ID-11067). None of the sample analysis results exceeded these action limits in any category for the HWMA/RCRA action levels. The data associated with the radionuclides, constituents that are not regulated by HWMA/RCRA, are also provided in the table.

1a. **Is the site SWMU as defined in OSWER DIRECTIVE 9502.00-6?** **Yes** **X No**

2. **Recommendation**

☐ Recommend not including as a new FFA/CO site. This site DOES NOT warrant further investigation, does not meet the criteria for acceptance, and should not be included under FFA/CO Action Plan.

435.36
04/08/2004
Rev. 05

NEW SITE IDENTIFICATION (NSI)

☒ Recommend including as new FFA/CO site. This site DOES meet the criteria for acceptance, may warrant further investigation, and should be included under FFA/CO Action Plan.

Recommended WAG and Operable Unit to which site should be assigned:

WAG: 3 Operable Unit: 3-14, CPP-96

Recommended further action for this site:

☐ No Action ☐ No Further Action ☐ Track 1 ☐ Track 2 ☒ RI/FS

4 Responsible Manager Certification: I have examined the information submitted in this document and believe the information to be true, accurate, and complete.

Name: Douglass J. Kuhns Signature: DJ Kuhns Date: 8-3-04

NEW SITE IDENTIFICATION (NSI)

PART C – INEEL FFA/CO WAG MANAGERS CONCURRENCE	
Site Title:	**Site Code:**

DOE-ID WAG Manager Concurrence: (Concur with recommendation.) Do not concur with the recommendation.

Signature: Rachel C. Hall Date: Aug 5, 2004.

Explanation: Kathleen S Klein 5/24/05

EPA WAG Manager Concurrence: Concur with recommendation. Do not concur with the recommendation.

Signature: _____ Date: _____

Explanation:

State of Idaho WAG Manager Concurrence: Concur with recommendation. Do not concur with the recommendation.

Signature: _____ Date: _____

Explanation:

435.36
04/08/2004
Rev. 05

NEW SITE IDENTIFICATION (NSI)

PART D – INEEL FFA/CO RESPONSIBLE PROGRAM MANAGERS (RPM'S) CONCURRENCE

Site Title:	Site Code:

DOE-ID FFA/CO RPM Concurrence: Concur with recommendation. Do not concur with the recommendation.

Signature: _____ Date: _____

Explanation:

EPA FFA/CO RPM Concurrence: Concur with recommendation. Do not concur with the recommendation.

Signature: _____ Date: 06/09/05

Explanation:

RECOMMEND INCLUDING CPP-112 AS A NEW FFA/CO SITE.

State of Idaho FFA/CO RPM Concurrence: Concur with recommendation. Do not concur with the recommendation.

Signature: Daryl F. Koch Date: 5-24-05

The discrepancy of about 1,000 gal. between the amount of water used and the amount of water entering the tank should be investigated. It is agreed that the action level limit for HWMA/RCRA was not exceeded in the data associated with the sample results. I recommend including CPP-112 as a new FFA/CO site

NEW SITE IDENTIFICATION (NSI)

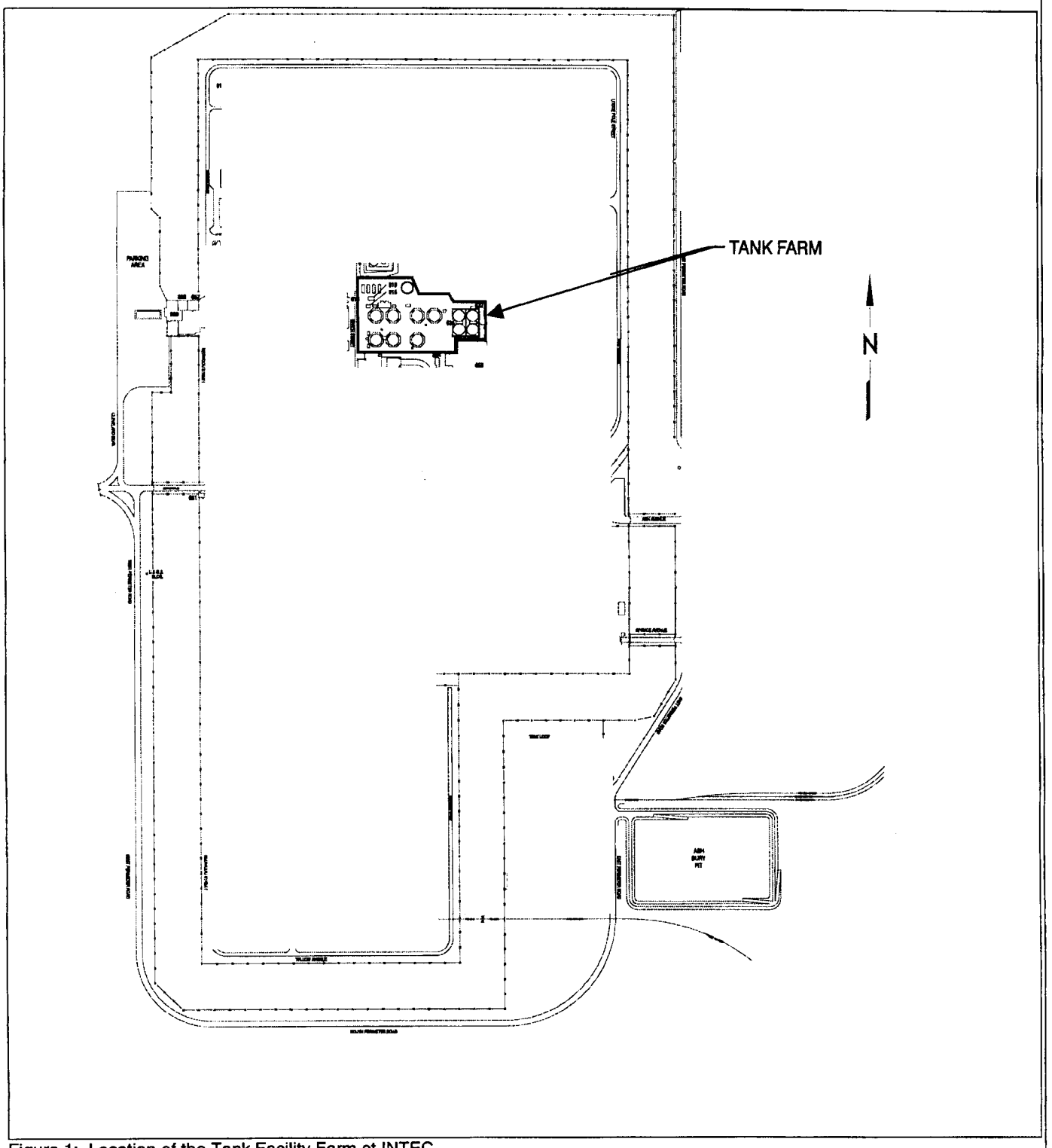

Figure 1: Location of the Tank Facility Farm at INTEC.

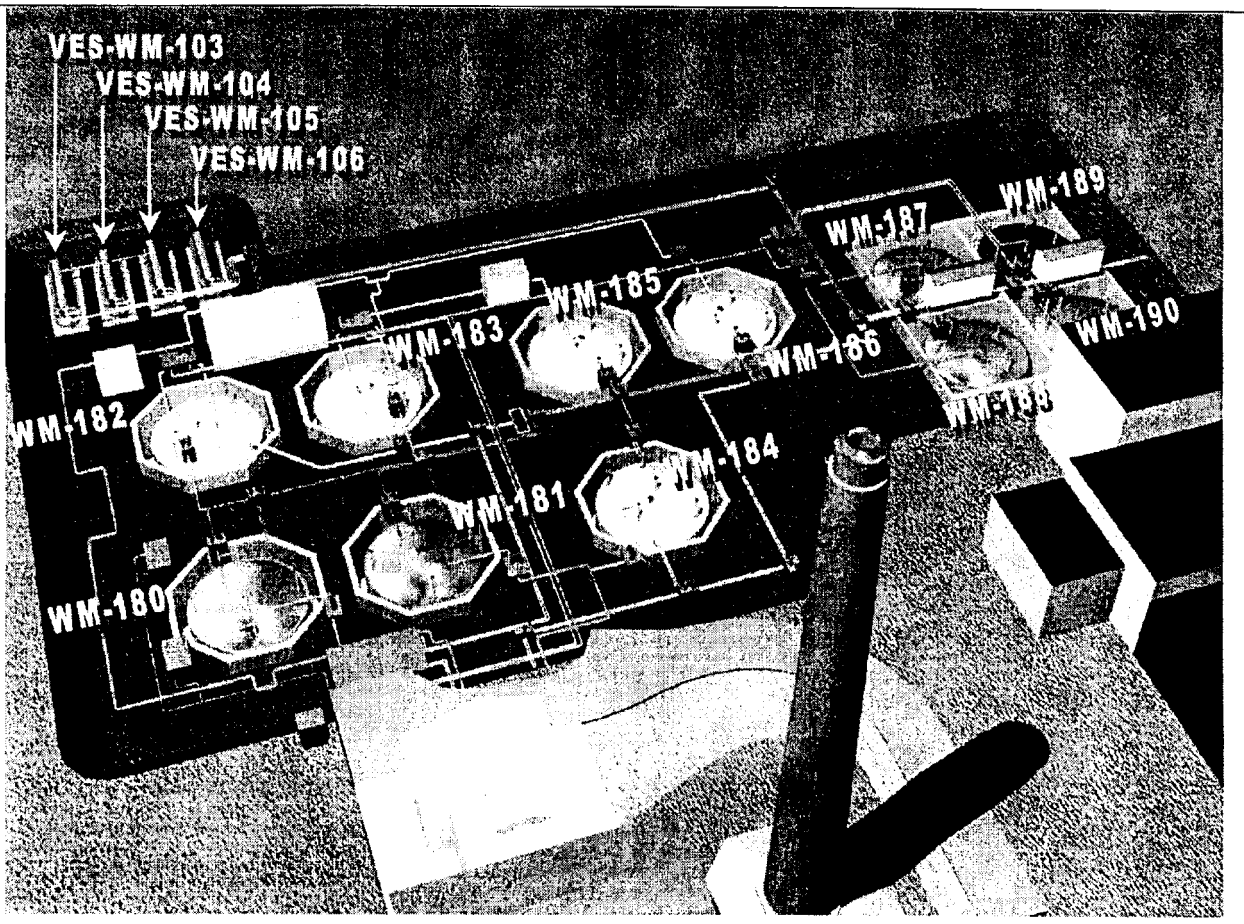

Figure 2: Location of Tank WM-184 (Suspected Site CPP-112).

Table 1: Detected Anions (mg/L) and pH

Analyte	Action Limit	WM-184 SR-22	WM-184 SR-23
Chloride	None	6.10	2.45
Fluoride	7.7E+02	0.49	0.43
Nitrate-N (mg/L)	None	10.9	0.97
Sulfate	None	17.7	7.54
pH	12.5	8.6	11.8

Table 2: Detected Radionuclides (pCi/L)

Analyte	Inventory Level	WM-184 SR-22	WM-184 SR-23
Cs-137	1.15E+11	1.10E+04	9.87E+02
H-3	1.61E+07	2.74E+03	1.23E+03
Pu-241	4.24E+08	8.81E+01	2.00E+02
Total Sr	8.15E+10	1.06E+03	ND

ND = Not Detected

Table 3: Detected Volatile Organic Compounds (µg/L)

Compound	Action Limit	WM-184 SR-22	WN-184 SR-23
Methyl ethyl ketone	1.6E+05	4830	453
Acetone	909E+05	2430	192
Toluene	1.4E+06	ND	2.3

ND = Not Detected

Table 4: Detected Semivolatile Organic Compounds (µg/L)

Compound	Action Limit	WM-184 SR-22	WM-184 SR-23
		ND	ND

ND = Not Detected

Table 5: Detected Metals (µg/L)

Metal	Action Limit	WM-184 SR-22	WM-184 SR-23
Aluminum	3.1E+06	1.11E+03	2.04E+03
Antimony	6.3E+04	3.85E+01	ND
Arsenic	4.2E+02	4.03E+01	ND
Barium	8.3E+04	6.19E+01	1.47E+023
Cadmium	6.1E+02	7.0E-01	6.0E-01
Calcium	none	1.10E+04	1.96E+05
Chromium	9.0E+02	8.96E+01	1.37E+01
Cobalt	7.7E+05	4.0E+00	1.3E+00
Copper	6.0E+05	1.92E+02	1.50E+01
Iron	1.7E+06	1.17E+04	2.64E+03
Lead	4.0E+03	7.85E+01	7.60E+01
Magnesium	none	4.76E+03	1.44E+03
Manganese	4.9E+05	1.07E+02	ND
Molybdenum	none	1.33E+01	ND
Nickel	4.4E+05	8.18E+01	1.19E+01
Potassium	none	9.35E+04	4.18E+03
Selenium	8.9E+01	6.3E+00	ND
Sodium	none	8.35E+04	2.85E+03
Vanadium	2.0E+05	4.87E+01	5.7E+00
Zinc	1.7E+06	2.45E+02	1.71E+02

ND = Not Detected